SEQUENCE LISTING

<110> Japan as Represented by Secretary of Agency of Industrial Science and Technology

<120> Sulphur Free Enzyme

<130> PH-911-PCT

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<150> JP99/183664

<151> 29-JUN-1999

<160> 10

<170> PatentIn Ver. 2.0

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<211> 159

<212> PRT

<213> E. coli

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Phe Lys Arg Asn Thr Leu Asn Lys Pro Val Ile Met Gly Arg His
35 40 45

Thr Trp Glu Ser Ile Gly Arg Pro Leu Pro Gly Arg Lys Asn Ile
50 55 60

Ile Leu Ser Ser Gln Pro Gly Thr Asp Asp Arg Val Thr Trp Val
65 70 75

Lys Ser Val Asp Glu Ala Ile Ala Ala Ala Gly Asp Val Pro Glu
80 85 90

Ile Met Val Ile Gly Gly Gly Arg Val Tyr Glu Gln Phe Leu Pro
95 100 105
Lys Ala Gln Lys Leu Tyr Leu Thr His Ile Asp Ala Glu Val Glu
110 115 120
Gly Asp Thr His Phe Pro Asp Tyr Glu Pro Asp Asp Trp Glu Ser
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Val Phe Ser Glu Phe His Asp Ala Asp Ala Gln Asn Ser His Ser
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Tyr Ser Phe Glu Ile Leu Glu Arg Arg
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<212> PRT

<213> B. subtilis

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Ser Asn Thr Gly Asn Phe Val Val Gly Lys Gly Trp Thr Thr Gly
        35                  40                  45
Ser Pro Phe Arg Thr Ile Asn Tyr Asn Ala Gly Val Trp Ala Pro
    50                  55                  60
Asn Gly Asn Gly Tyr Leu Thr Leu Tyr Gly Trp Thr Arg Ser Pro
65                  70                  75
Leu Ile Glu Tyr Tyr Val Val Asp Ser Trp Gly Thr Tyr Arg Pro
                80                  85                  90
Thr Gly Thr Tyr Lys Gly Thr Val Lys Ser Asp Gly Gly Thr Tyr
            95                  100                 105
Asp Ile Tyr Thr Thr Thr Arg Tyr Asn Ala Pro Ser Ile Asp Gly
        110                 115                 120
Asp Arg Thr Thr Phe Thr Gln Tyr Trp Ser Val Arg Gln Ser Lys
    125                 130                 135
Arg Pro Thr Gly Ser Asn Ala Thr Ile Thr Phe Ser Asn His Val
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20 25 30

Phe Lys Arg Asn Thr Leu Asn Lys Pro Val Ile Tyr Gly Arg His

35 40 45

Thr Trp Glu Ser Ile Gly Arg Pro Leu Pro Gly Arg Lys Asn Ile

50 55 60

Ile Leu Ser Ser Gln Pro Gly Thr Asp Asp Arg Val Thr Trp Val

65 70 75

Lys Ser Val Asp Glu Ala Ile Ala Ala Ala Gly Asp Val Pro Glu

80 85 90

Ile Phe Val Ile Gly Gly Gly Arg Val Tyr Glu Gln Phe Leu Pro

95 100 105

Lys Ala Gln Lys Leu Tyr Leu Thr His Ile Asp Ala Glu Val Glu

110 115 120

Gly Asp Thr His Phe Pro Asp Tyr Glu Pro Asp Asp Trp Glu Ser

125 130 135

Val Phe Ser Glu Phe His Asp Ala Asp Ala Gln Asn Ser His Ser

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Tyr Ser Phe Glu Ile Leu Glu Arg Arg

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<212> DNA

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<221> CDS

<222> (81)...(560)

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<210> 7
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Asn Glu Asn Ala Leu Pro Trp Asn Leu Pro Ala Asp Leu Ala Trp
             20                  25                  30
Phe Lys Arg Asn Thr Leu Asn Lys Pro Val Ile Tyr Gly Arg His
             35                  40                  45
Thr Trp Glu Ser Ile Gly Arg Pro Leu Pro Gly Arg Lys Asn Ile
             50                  55                  60
Ile Leu Ser Ser Gln Pro Gly Thr Asp Asp Arg Val Thr Trp Val
             65                  70                  75
Lys Ser Val Asp Glu Ala Ile Ala Ala Ala Gly Asp Val Pro Glu
             80                  85                  90
Ile Phe Val Ile Gly Gly Gly Arg Val Tyr Glu Gln Phe Leu Pro
             95                 100                 105
Lys Ala Gln Lys Leu Tyr Leu Thr His Ile Asp Ala Glu Val Glu
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                110                 115                 120
Gly Asp Thr His Phe Pro Asp Tyr Glu Pro Asp Asp Trp Glu Ser
                125                 130                 135
Val Phe Ser Glu Phe His Asp Ala Asp Ala Gln Asn Ser His Ser
                140                 145                 150
Tyr Ser Phe Glu Ile Leu Glu Arg Arg Gly Gly Gly Gly Ser Gly
                155                 160                 165
Gly Gly Gly Ala Ser Thr Asp Tyr Trp Gln Asn Trp Thr Asp Gly
                170                 175                 180
Gly Gly Ile Val Asn Ala Val Asn Gly Ser Gly Gly Asn Tyr Ser
                185                 190                 195
Val Asn Trp Ser Asn Thr Gly Asn Phe Val Val Gly Lys Gly Trp
                200                 205                 210
Thr Thr Gly Ser Pro Phe Arg Thr Ile Asn Tyr Asn Ala Gly Val
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Trp Ala Pro Asn Gly Asn Gly Tyr Leu Thr Leu Tyr Gly Trp Thr
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Arg Ser Pro Leu Ile Glu Tyr Tyr Val Val Asp Ser Trp Gly Thr
                245                 250                 255
Tyr Arg Pro Thr Gly Thr Tyr Lys Gly Thr Val Lys Ser Asp Gly
                260                 265                 270
Gly Thr Tyr Asp Ile Tyr Thr Thr Thr Arg Tyr Asn Ala Pro Ser
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Ile Asp Gly Asp Arg Thr Thr Phe Thr Gln Tyr Trp Ser Val Arg
                290                 295                 300
Gln Ser Lys Arg Pro Thr Gly Ser Asn Ala Thr Ile Thr Phe Ser
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Asn His Val Asn Ala Trp Lys Ser His Gly Met Asn Leu Gly Ser
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Gly Ser Ser Asn Val Thr Val Trp
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<210> 9

<211> 353

<212> PRT

<213>

<400> 9

Ala Ile Ser Leu Ile Ala Ala Leu Ala Val Asp Arg Val Ile Gly
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Asn Glu Asn Ala Leu Pro Trp Asn Leu Pro Ala Asp Leu Ala Trp
20 25 30

Phe Lys Arg Asn Thr Leu Asn Lys Pro Val Ile Tyr Gly Arg His
35 40 45

Thr Trp Glu Ser Ile Gly Arg Pro Leu Pro Gly Arg Lys Asn Ile
50 55 60

Ile Leu Ser Ser Gln Pro Gly Thr Asp Asp Arg Val Thr Trp Val
65 70 75

Lys Ser Val Asp Glu Ala Ile Ala Ala Ala Gly Asp Val Pro Glu
80 85 90

Ile Phe Val Ile Gly Gly Gly Arg Val Tyr Glu Gln Phe Leu Pro
95 100 105

Lys Ala Gln Lys Leu Tyr Leu Thr His Ile Asp Ala Glu Val Glu
110 115 120

Gly Asp Thr His Phe Pro Asp Tyr Glu Pro Asp Asp Trp Glu Ser
125 130 135

Val Phe Ser Glu Phe His Asp Ala Asp Ala Gln Asn Ser His Ser
140 145 150

Tyr Ser Phe Glu Ile Leu Glu Arg Arg Gly Gly Gly Gly Ser Gly
155 160 165

Gly Gly Gly Ala Ser Thr Asp Tyr Trp Gln Asn Trp Thr Asp Gly
170 175 180
Gly Gly Ile Val Asn Ala Val Asn Gly Ser Gly Gly Asn Tyr Ser
185 190 195
Val Asn Trp Ser Asn Thr Gly Asn Phe Val Val Gly Lys Gly Trp
200 205 210
Thr Thr Gly Ser Pro Phe Arg Thr Ile Asn Tyr Asn Ala Gly Val
215 220 225
Trp Ala Pro Asn Gly Asn Gly Tyr Leu Thr Leu Tyr Gly Trp Thr
230 235 240
Arg Ser Pro Leu Ile Glu Tyr Tyr Val Val Asp Ser Trp Gly Thr
245 250 255
Tyr Arg Pro Thr Gly Thr Tyr Lys Gly Thr Val Lys Ser Asp Gly
260 265 270
Gly Thr Tyr Asp Ile Tyr Thr Thr Thr Arg Tyr Asn Ala Pro Ser
275 280 285
Ile Asp Gly Asp Arg Thr Thr Phe Thr Gln Tyr Trp Ser Val Arg
290 295 300
Gln Ser Lys Arg Pro Thr Gly Ser Asn Ala Thr Ile Thr Phe Ser
305 310 315
Asn His Val Asn Ala Trp Lys Ser His Gly Leu Asn Leu Gly Ser
320 325 330
Asn Trp Ala Tyr Gln Val Ile Ala Thr Glu Gly Tyr Gln Ser Ser
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Gly Ser Ser Asn Val Thr Val Trp
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<210> 10

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<212> DNA

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